STATE OF INDIANA

INDIANAPOLIS 46206

STREAM POLLUTION CONTROL BOARD

1330 West Michigan Street
P.O. Box 1964

JC
10/15/83

May 13, 1983

(M)

(S)

VIA CERTIFIED MAIL

Dr. P. X. Masciantonio
Vice President-Energy and Environment
United States Steel Corporation
600 Grant Street
Pittsburgh, PA 15230

Dear Doctor Masciantonio:

Re: NPDES Permit No. IN 0000281
U.S. Steel Corporation
Gary Works & Tubing Specialties

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act as amended by PL 92-500 and PL 95-217 (33 U.S.C. 1251, et seq.), and Public Law 100, Acts of 1972, as amended (IC 13-7, et seq., the "Environmental Management Act"). The enclosed NPDES Permit covers your facility which manufactures iron, steel, and coke products and that discharges into Lake Michigan and the Grand Calumet River. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A1 and B6.) It is therefore urged that your office and treatment operator understand this part of the permit.

It should also be noted that any appeal must be filed under procedures outlined in 330 IAC 5-16. The appeal must be initiated by filing with the Stream Pollution Control Board a request for an adjudicatory hearing within 30 days of receipt of this letter.

If you have any questions, please contact Mr. Larry J. Kane at 317/633-0761.

Very truly yours,

Earl A. Bohner
Technical Secretary

LJK/sck
Enclosures
cc: Chief, Permit Section, U.S. EPA, Region V
Lake County Health Department
J. David Moniot
Lake Michigan Federation

INDIANA STREAM POLLUTION CONTROL BOARD
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended by P.L. 92-500 and P.L. 95-217 (33 U.S.C. 1251 et seq., the "Act"), and Public Law 100, Acts of 1972, as amended (IC 13-7, et seq., the "Environmental Management Act"),

UNITED STATES STEEL CORPORATION (USSC)

is authorized to discharge from its Gary Works and Tubing Specialties facility, which produces iron and steel products, coke, coal chemicals, seamless tube rounds, and steel foundry products and is located in Gary, Indiana, to receiving waters named the Grand Calumet River and Lake Michigan in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof.

The permit shall become effective on June 1, 1983.

This permit and the authorization to discharge shall expire at midnight May 31, 1988. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Stream Pollution Control Board no later than 180 days prior to the date of expiration.

Signed this 13 day of May, 1983, for the Indiana Stream Pollution Control Board.

[signature]
Technical Secretary

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date, and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 002 (GW-1).

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	--	Weekly	3 Grabs/24 Hrs.
Ammonia-N	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Cyanide-Total	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Phenols (4AAP)*	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Iron-Total**	--	--	--	--	Monthly	24-Hr. Comp.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by a grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge prior to entry into the Grand Calumet River.

(1) See page 17
(2) See page 15

*The term "phenols (4AAP)" refers to that group of phenolic compounds amenable to analysis by distillation (in conjunction with exposure to 4-aminoantipyrine) followed by colorimetry.

**The effluent shall be sampled monthly for three consecutive months only, commencing with the effective date of this permit, for the parameter of total iron.

002

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 601 (Tube Works Filtration Plant*).

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	Continuous	Totalized
Total Suspended Solids	90(197)	239(527)	--	--	Weekly	24-Hr. Comp.
Oil & Grease	--	60(132)	--	--	Weekly	3 Grabs/24 Hr.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the filtration plant prior to mixing with any other wastewaters.

*The effluent from the Tube Works Filtration Plant ultimately discharges from outfall 002.

601

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date and lasting through the expiration date, USSC is authorized to discharge from outfall(s) 007 (GW-2) and 010 (GW-3).

Such discharges shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements* Measurement Frequency	Monitoring Requirements* Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	10 mg/l	Weekly	3 Grabs/24 Hrs.
Ammonia-N	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Cyanide-Total	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Phenols (4AAP)	(2)	(2)	--	--	Weekly	24-Hr. Comp.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into the Grand Calumet River.

(1) See page 17
(2) See page 15

*See page 21 for additional monitoring requirements for outfall 007 only.

007
010

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 017 (GW-5).

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	Continuous	Meas. Recorded
Temperature	--	--	--	(1)	Continuous	Meas. Recorded
Suspended Solids	227(500)	340(750)	--	--	Daily	*24-Hr. Comp.
Oil & Grease	--	--	--	10 mg/l	Daily	3 Grabs/24 Hrs.
Ammonia-N (2)	125 (274)	374 (823)	--	--	Daily	*24-Hr. Comp.
Cyanide-T (2)	12.45(27.4)	25.0 (54.9)	--	--	Daily	*24-Hr. Comp.
Phenols(4AAP) (2)	1.25(2.74)	2.5 (5.49)	--	--	Daily	*24-Hr. Comp.
Zinc	3.74(8.23)	7.48 (16.46)	--	--	Daily	*24-Hr. Comp.
TRC**	--	6.23(13.7)	--	--	Daily	3 Grabs/24 Hrs.
Lead	3.13(6.87)	6.26(13.74)	--	--	Daily	*24-Hr. Comp.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be continuously monitored and recorded.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge prior to entry into the Grand Calumet River.

*Flow Proportioned: Minimum of six samples taken at equally spaced time intervals during a 24-hour period.

**TRC means "Total Residual Chlorine."

(1) See page 17
(2) See page 15

017

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 028 (GW-10A) and 030 (GW-11A).

Such discharges shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	3 X Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Total Suspended Solids (3)	4928(10842)	10342(22800)	--	--	3 X Weekly	24-Hr. Comp.
Oil & Grease (3)	--	2930(6460)	--	--	3 X Weekly	3 Grabs/24 Hrs.
Phenols (4AAP)	--	--	--	--	2 X Monthly	24-Hr. Comp.
Fluoride (4)	--	--	--	--	Monthly	24-Hr. Comp.
Mercury-Total*	--	--	--	--	Monthly	24-Hr. Comp.
Iron-Total**	--	--	--	--	Monthly	24-Hr. Comp.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into the Grand Calumet River.

(1) See page 17

(3) Determination of the mass loadings discharged from the Terminal Lagoons is to be made as follows:

The effluents from each of the two outfalls are to be monitored in conjunction with one another. The mass loading for each outfall is to be determined from its respective flow rate and effluent concentration. The mass loading from the Terminal Lagoons is the sum of the loading from each of the two outfalls.

028
030

(4) Outfall 030 only.

*The effluent from Outfall 030 only shall be sampled monthly for three consecutive months only, commencing with the effective date, for the parameter of total mercury.

**The effluent shall be sampled monthly for three consecutive months only, commencing with July I, 1984, for the parameter of total iron.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

6. During the period beginning July 1, 1984, and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 603 (BOP Treatment and Continuous Casting Treatmer

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirement Measurement Frequency	Monitoring Requirement Sample Type
Flow (MGD)	--	--	--	--	Continuous	Totalized
Lead	3.3 (7.28)	9.9(21.79)	--	--	5/7 Days	24-Hr. Co
Zinc	4.96(10.91)	14.9(32.71)	--	--	5/7 Days	24 Hr. Co

Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the combined discharge from the two treatment facilities prior to mixing with any other wastewaters.

*The effluent from internal outfall 603 ultimately is discharged from outfalls 028 and 030.

603

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

7. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 034 (ST-17).

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	--	Weekly	3 Grabs/24 Hrs.
Ammonia-N	--	--	--	--	2 X Monthly	24-Hr. Comp.
Cyanide-T	--	--	--	--	2 X Monthly	24-Hr. Comp.
Phenols (4AAP)	(2)	(2)	--	--	Weekly	24-Hr. Comp.
Chloride	--	--	--	--	Monthly	24-Hr. Comp.
Sulfate	--	--	--	--	Monthly	24-Hr. Comp.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by a grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into the Grand Calumet River.

(1) See page 17
(2) See page 15

034

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

8. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 604 (Terminal Treatment Plant)*.

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements** Measurement Frequency	Monitoring Requirements** Sample Type
Flow (MGD)	--	--	--	--	Continuous	Totalized
Total Suspended Solids	1624(3572)	3692(8123)	--	--	5/7 Days	24-Hr. Comp.
Oil & Grease	--	1180(2600)	--	--	5/7 Days	3 Grabs/24 Hrs.
Zinc	11.0(24.1)	34.9(76.8)	--	--	5/7 Days	24-Hr. Comp.
Chromium-Total	9.8(21.5)	31.7(69.7)	--	--	5/7 Days	24-Hr. Comp.
Lead	8.4(18.4)	24.9(54.8)	--	--	5/7 Days	24-Hr. Comp.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the Terminal Treatment Plant prior to mixing with any other wastewaters.

*The effluent from the Terminal Treatment Plant is ultimately discharged from outfall 034.

**See Pages 21 and 22 for additional monitoring requirements.

604

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

9. During the period beginning October 1, 1983, and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 605 (84"HSM Filtration Plant)*.

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	--	--	--	--	Continuous	Totalized
Total Suspended Solids	330(725)	989(2175)	--	--	5/7 Days	24-Hr. Comp.
Oil & Grease	--	659(1450)	--	--	5/7 Days	3 Grabs/24 Hrs

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the Filtration Plant prior to mixing with any other wastewaters.

*The effluent from internal outfall 605 ultimately discharges from outfall 034.

605

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

10. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 001, 003, 004, 023, and 026.

Such discharges shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirement Measurement Frequency	Monitoring Requirement Sample Type
Flow (MGD)	--	--	--	--	Monthly	One 24-Hr. Est.

These discharges are limited solely to non-contact cooling water, steam condensate, and storm water free from process and other wastewater discharges.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored monthly by grab samples.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into the Grand Calumet River.

001, 003, 004
023, 026

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

11. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 005(GW-1A), 015(GW-4), 018(GW-6), 019(GW-7), 020 (GW-7A), 021(GW-9), 032(GW-13), and 033(ST-14).

Such discharges shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirements** Measurement Frequency	Monitoring Requirements** Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	--	Weekly	3 Grabs/24 Hrs.
Ammonia-N (5)	--	--	--	--	Weekly	24-Hr. Comp.
Phenols (4AAP)(6)	--	--	--	--	2 X Monthly	24-Hr. Comp.
Iron-Total***	--	--	--	--	Monthly	24-Hr. Comp.

*This discharge is limited solely to noncontact cooling and storm water.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by a grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into Grand Calumet River.

(1) See page 17
(5) Outfall 018 only
(6) Outfalls 018, 019, and 020 only.

*Certain of these outfalls may contain contamination from process wastewaters. If significant contamination is found to be consistently present at one or more outfalls, this permit may be modified, after notice and opportunity for hearing, to establish appropriate effluent limitations at such outfalls.

**See page 21 for additional monitoring requirements for outfall 018 only.

***The effluent from outfall 020 shall be sampled monthly only for three consecutive months, commencing July 1, 1984, for the parameter of total iron.

005, 015, 018, 019, 020, 021, 032, 033

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

12. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) 035(GW-L-1), 036(GW-L-1A), 037(ST-L-5), and 038(ST-L-2).

Such discharges shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirement Measurement Frequency	Monitoring Requirement Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	--	Weekly	3 Grabs/24 Hrs.

These discharges are limited solely to noncontact cooling and storm water free from process and other wastewater discharges.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by a grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at points representative of the discharges prior to entry into Lake Michigan.

(1) See Page 17.

035, 036
037, 038

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

13. During the period beginning on the effective date and lasting through the expiration date, USSC isauthorized to discharge from outfall(s) serial number(s) 039 (ST-L-6).

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirement Measurement Frequency	Monitoring Requirement Sample Type
Flow (MGD)	--	--	--	--	Weekly	One Measurement
Temperature	--	--	--	(1)	Weekly	One Measurement
Oil & Grease	--	--	--	--	Weekly	3 grabs/24 Hrs.

This discharge is limited solely to noncontact cooling and storm water free from process and other wastewater discharges.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored weekly by a grab sample.

There shall be no discharge of floating solids or visible foam except where USSC demonstrates that concentrations are no greater than that which are found in the influent, where receiving water is the same source as influent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge prior to entry into Lake Michigan.

(1) See page 17

039

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

14. (Wasteload Allocation Parameters). During the period beginning o the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s serial number(s) 002, 007, 010, 017, and 034.

The total discharge from all such designated outfalls shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requir Measurement Frequency	Samp Type
Flow (MGD)	--	--	--	--	For monitoring req	
Ammonia-N (7)	669.5 (1476)	1318 (2906)	--	--	see specific outfa	
Cyanide-T (7)	20.6 (45.5)	40.0 (88.2)	--	--		
Phenols (4AAP)	17.2 (38)	28.6 (63)	--	--		

Additional limiting requirements for each of the above-reference discharges are presented on pages 2 through 10.

*The weekly samples taken from the above-referenced outfalls for monitoring of the parameters limited under this paragraph shall all be taken on the same day of the week so that Daily Maximum values for the combined outfalls can be properly calculated.

(7) The discharge from outfall 034 is not included in the calculation of the total combined discharge of Ammonia-N and Cyanide-T to which the effluent limitations of this page apply.

002, 007, 010, 017, 034

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

15. During the period beginning on the effective date of this permit and lasting through the expiration date, USSC is authorized to discharge from outfall(s) serial number(s) IN-9.*

Such discharge shall be limited and monitored by USSC as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day) Daily Average	kg/day (lbs/day) Daily Maximum	Other Limitations Daily Average	Other Limitations Daily Maximum	Monitoring Requirement Measurement Frequency	Monitoring Requirement Sample Type
Flow (MGD)	--	--	--	--	Monthly	Total gals. inject
Injection Pressure	--	--	--	--	Monthly	Maximum
Annular Pressure	--	--	--	--	Monthly	Maximum
Temperature	--	--	--	--	Monthly	Measurement
Iron (dissolved)	--	--	--	--	Monthly	Grab
Sulfate	--	--	--	--	Monthly	Grab
Free Acid	--	--	--	--	Monthly	Grab

The quantity of material injected into the deep well shall not exceed the design flow of 0.43 MGD.

*USSC shall discharge to the deep injection well only waste pickling liquor.

16. THERMAL DISCHARGES

USSC conducted and has submitted a "Thermal Discharge Demonstration" pursuant to Section 316(a) of the "Clean Water Act" for its discharges to Lake Michigan and the Grand Calumet River. The Indiana Stream Pollution Control Board and the U.S. EPA have reviewed the "Thermal Discharge Demonstration" and concluded that the thermal discharges present at the time of the demonstration would assure the protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife in and on Lake Michigan and the Grand Calumet River (commensurate with the character of the sources of the river).

Permit application flow data and discharge monitoring data show a decrease in the discharge but no change in discharge temperature from the time of the demonstration. Therefore, no additional thermal reductions are required for either the Lake Michigan or the Grand Calumet River discharges.

Imposition of thermal limitations or the need for another Thermal Demonstration may result from any future revision in applicable water quality standards or from a Permit Modification Request due to production changes which would result in an increased thermal discharge.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit discharge monitoring reports (DMR-1 Form) to the Indiana Stream Pollution Control Board containing results obtained during each month and shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

The monitoring reports are to be submitted quarterly to the Regional Administrator.

3. Definitions

a. Daily Average

(1) Weight Basis - The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "daily average" concentration means the arithmetic average (proportional to flow) of all daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Maximum" Discharge

(1) Weight Basis - The "daily maximum" discharge means the total discharge by weight during any calendar day.

(2) Concentration Basis - The "daily maximum" concentration means the daily determination of concentration for any calendar day.

c. 24-Hour Composite Sample--Consists of at least three equal-volume samples of wastewater which are taken a spaced time intervals during a 24-hour period and wh combined prior to analyses.

d. Three Grabs Per 24 Hours (Oil & Grease)--Three indivi samples taken at equally spaced time intervals during 24-hour period. Each sample is individually analyzed the arithmetic mean of the concentrations reported as value for the 24-hour period.

e. Concentration--The weight of any given material present unit volume of liquid. Concentration values shall be e in milligrams per liter (mg/l).

f. Net Concentration--The difference between the concentra of a given substance in a sample taken of the discharge the concentration of the same substance in a sample take the intake which supplies water to the given discharge.

g. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn Street, Chicago, Illinois 60604.

h. The Indiana Stream Pollution Control Board is located at t following address: 1330 West Michigan Street, Indianapoli Indiana 46206.

4. Test Procedures

Test procedures for analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, th most recent edition of "Standard Methods for the Examination of Water and Wastewater," or other methods approved by the Indiana Stream Pollution Control Board, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirement of this permit, the permittee shall record the following inform

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) desig herein more frequently than required by this permit, using appro analytical methods as specified above, the results of such monit shall be included in the calculation and reporting of the values required in the Indiana Stream Pollution Control Board Monthly Monitoring Report. Such increased frequency shall also be indica

7. Records Retention

All records and information resulting from the monitoring activiti required by this permit, including all records of analyses perform and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer, if requested by the Regional Administrator or the Indiana Stream Pollution Control Board.

D. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

   a. For 84" HSM Filtration Plant (Outfall 605)
   Compliance attainment by . . . . . .October 1, 1983

   b. For BOP and Continuous Caster Treatment (Outfall 603)
   Compliance attainment by . . . . . July 1, 1984

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance to the Indiana Stream Pollution Control Board. The notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D. SPECIAL CONDITIONS

1. Outfalls 007 (GW-2) and 018 (GW-6)--Characterization Survey and Monitoring Program.

The permittee shall conduct a characterization survey for the purpose of minimizing to the maximum extent practical, the discharge of cokemaking process wastewater pollutants from Outfall 007 and iron making process wastewater pollutants from Outfall 018. The survey program shall consist of a six-month period beginning on the effecitve date of this permit during which the permittee will endeavor to identify all significant sources of contaminated wastewaters discharged from Outfalls 007 and 018, will monitor all such identified sources, and, to the extent practicable, will remove, or reduce through operation and maintenance procedures, the discharge of process wastewater pollutants to those outfalls. The survey program shall be followed by a twelve week effluent monitoring program for each outfall as set out below:

	Frequency	Sample Type
Flow	5/week	24-Hour Total
Total Suspended solids	"	24-Hour Composite
Oil and Grease	"	3 Grabs/24 Hours
Ammonia-N	"	24-Hour Composite
Total Cyanide	"	24-Hour Composite
Phenols (4AAP)	"	24-Hour Composite

Within 30 days from completion of the monitoring program, the permittee shall submit a report to the Indiana Stream Pollution Control Board (SPCB) describing the actions taken during the characterization survey program to reduce or eliminate the discharge of coke plant process wastewater pollutants to Outfall 007 and iron making process wastewater pollutants to Outfall 018 and including all of the data from the twelve week monitoring program. The daily mass discharge of each pollutant shall be reported for each outfall. Based on the results of this report, this permit may be modified, after public notice and opportunity for public hearing, to revise monitoring requirements and/or effluent limitations and to extend the inspection and pollutant-minimization practices as appropriate.

2. Station 604 Terminal Treatment Plant--Organic Pollutant Monitoring Study

Effluent limitations for naphthalene and tetrachloroethylene applicable to cold rolling operations have been deferred pending completion of the following study to be conducted by the permittee within two months from the effective date of this permit. The purpose of the study is to determine which toxic organic pollutants are present in cold rolling wastwaters at the Gary Works and whether these pollutants are adequately treated in the Terminal Treatment Plant.

The permittee shall monitor the influent to the Terminal Treatment Plant at the primary mixers (prior to input of the electro-galvanizing wastewater) and the effluent of the Terminal Treatment Plant prior to mixing with other process or cooling waters for a minimum of six days during a two-month period. Two of the six daily samples shall be taken during periods in which the cold rolling mills or the highest typical fraction of them are undergoing maintenance. The remaining four daily samples shall be taken during periods of cold rolling production. For each monitoring day, the compositing and sampling period for the untreated wastewater and final effluent samples shall be adjusted according to the level of cold rolling production (e.g., 8-hour composites, 16-hour composites, 24-hour composites). The permittee will take into account the hydraulic retention time of the Terminal Treatment Plant at its then current flow rate and commence the composite sampling of the Terminal Treatment Plant effluent accordingly. The permittee shall conduct sampling surveys on days or operating turns when maintenance (rolling solution changes, solvent cleaning, etc.) is performed. As a minimum, the permittee shall monitor for the pollutants listed on the following table and shall also quantitatively identify all other compounds detected by a GC/MS scan of volatile, acid, and base/neutral organic compound fractions. Within ninety days after completion of the monitoring program, the permittee shall submit a report of the monitoring program to the SPCB including the results of the monitoring program. The mass discharge of each pollutant detected at each location shall be reported for each monitoring day.

Based upon the results of the monitoring study, this permit may be modified, after public notice and opportunity for public hearing, to establish additional monitoring requirements and/or effluent limitations, as appropriate.

COLD ROLLING OPERATIONS
TOXIC ORGANIC POLLUTANT SURVEY

Pollutant

	Total Suspended Solids	057	2-Nitrophenol
	Oil and Grease	065	Phenol
	pH	085	Tetrachloroethylene
004	Benzene	087	Trichloroethylene
055	Naphthalene		

Sample Type

Flow	Total Over Sampling Period
Total Suspended Solids	Composite Over Sampling Period
Base Neutral Organic Pollutants	Composite Over Sampling Period
Acid Fraction Organic Pollutants	Composite Over Sampling Period
Oil & Grease	2 or 3 Grab Samples per Sampling Period
pH	2 or 3 Grab Samples per Sampling Period
Volatile Organic Pollutants	2 or 3 Grab Samples per Sampling Period

WPC 14U/h
5/5/83

PART II
STANDARD CONDITIONS FOR NPDES PERMITS
FOR INDUSTRIAL FACILITIES

SECTION A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Indiana Environmental Management Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Pursuant to the Indiana Environmental Management Act, any person who violates a permit condition implementing sections 301, 302, 306, 307, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year or both. If the conviction is for a violation committed after a first conviction of such person under this provision, punishment shall be a fine of not more than fifty thousand dollars ($50,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

Except as provided in permit conditions on "Bypassing," Section B, Paragraph 2 and "Upsets," Section B, Paragraph 3, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

4. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of (i) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (ii) a notification of planned changes or anticipated noncompliance does not stay any permit condition.

5. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

7. Transfers

This permit is nontransferable to any person except after notice to the Director pursuant to Regulation 330 IAC 5-2-5(c). The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

Notwithstanding Paragraph A-4, above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

9. Containment Facilities

When cyanide or cyanogen compounds are used in any of the processes at this facility, the permittee shall provide approved facilities for the containment of any losses of these compounds in accordance with the requirements of Stream Pollution Control Board Regulation 330 IAC 1-2.

10. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Environmental Management Board as required by IC 13-1-6.

11. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

12. Property Rights

The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or an invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

13. Severability

The provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

14. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

15. Construction Permit

The permittee shall not construct, install, or modify any water pollution control facility without a valid construction permit issued by the Indiana Stream Pollution Control Board pursuant to 330 IAC 3.1.

SECTION B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems for wastewater collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit.

2. Bypass of Treatment Facilities

a. Definitions:

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility normally utilized for treatment of the waste stream.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production at the permittee's facility.

b. (Prohibition of Bypass) Bypass which causes or is likely to cause applicable effluent limitations to be exceeded is prohibited unless the following three conditions are met:

(1) Bypass is unavoidable to prevent loss of life, personal injury or severe property damage;

(2) There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal period of equipment down-time; and

(3) The permittee submits notice of an unanticipated bypass to the Director within 24 hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). Where the permittee knows or should have known in advance of the need for a bypass, this prior notification shall be submitted for approval to the Director, if possible, at least ten days before the date of the bypass.

c. An anticipated bypass which meets the three criteria of Paragraph b of this subsection may be allowed under conditions determined to be necessary by the Director to minimize any adverse effects.

3. Upset Conditions

a. Definition: "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable

control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. (Effect of an upset) An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection are met.

c. (Conditions necessary for a demonstration of upset) A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and

(3) The permittee complied with any remedial measures required under Paragraph A.3 of this Part.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

SECTION C: REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by advance notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Part I.B.2.

3. Compliance Schedules

Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

4. Twenty-Four Hour Reporting

The permittee shall report information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance:

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours; and

c. Any noncompliance which may pose a significant danger to human health or the environment.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

5. Other Noncompliance

The permittee shall report any instance of noncompliance not reported under Paragraph 2, 4, or 5 of this Section at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Paragraph 5 of this Section.

6. Other Information

Where the permittee becomes aware that he failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or corrected information.

7. Changes in Discharge of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established in Part III of the permit by the Director.

b. That it has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

8. Signatory Requirements

a. All reports required by the permit and other information requested by the Director shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a principal executive officer of at least the level of vice-president (including a person who is not a vice-president but performs similar policy-making functions for the corporation);

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a Federal, State, or local governmental body or an agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equilavent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Director.

c. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified

personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

9. Availability of Reports

Except for data determined to be confidential under Board Regulation 330 IAC 5-1.5, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Stream Pollution Control Board and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

10. Penalties for Falsification of Reports

The Indiana Environmental Management Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT PROGRAM

FACT SHEET
for
A Draft NPDES Permit to Discharge into Waters of the State
Proposed to be Issued by the:

Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206

Public Notice No.:

Public Notice Issued on:

Name and Address of Applicant:

United States Steel Corporation
by Dr. P. X. Masciantonio
Vice President-Energy and
Environment
600 Grant Street
Pittsburgh, PA 15230

Name and Address of Facility where Discharge Occurs:

U.S. Steel Corporation
Gary Works & Tubing Specialties
1 North Broadway
Gary, IN 46401

Receiving Water: (i) Lake Michigan and (ii) the Grand Calumet River

Use Classification: The receiving water is classified for (i) All general uses and (ii) partial body contact, limited aquatic life, and industrial water supply.

I. Tentative Decision on the Application

The above-named applicant has applied for an NPDES permit to discharge wastewaters into the above-described receiving water. The NPDES permit program is administered by the Indiana Stream Pollution Control Board ("Board") pursuant to Sec. 402(b) of the Federal Clean Water Act, as amended, the Indiana Environmental Management Act, as amended (IC 13-7), and Board Rule 330 IAC 5. The Technical Secretary of the Board has examined the application and has developed a draft permit which is proposed to be issued subject to concurrence of the U.S. Environmental Protection Agency. Principal provisions of the draft permit, including effluent limitations, and other pertinent information, are outlined below.

II. Location of Discharge

A description and/or sketch of the location of the discharges is appended as Attachment I.

III. Description of Existing Discharge

A quantitative description of the existing discharge in terms of significant effluent parameters is appended as Attachment II.

IV. Description of Effluent Limitations and Effluent Limitations Rationale

A. The effluent limitations in the draft permit as well as monitoring requirements, schedule of compliance, and special conditions are described in Attachment III. Also included is an effluent limitations rationale which provides the basis for each limitation or condition.

B. The other special conditions in the proposed permit may include, but are not necessarily limited to: monitoring, recording, and reporting discharges; limiting discharges of oil, hazardous substances, collected solids, visible floating solids, foams, and effluent batch discharges; planning for electric power failure and spill prevention and containment; and prohibiting bypass of treatment facilities. Persons wishing further information about the special conditions may contact the Indiana Stream Pollution Control Board.

V. Procedures for the Formulation of Final Determination

A. Interested persons are invited to submit written comments upon the proposed discharge. Comments should be submitted in person or by mail no later than 30 days after the date of the public notice was issued for the permit application. Deliver or mail all comments to:

Miss Julie White
Division of Water Pollution Control
Permits and Approvals Section
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, IN 46206

The application and public notice numbers should appear next to the above address on the envelope and on each page of any submitted comments. All comments received no later than 30 days after the public notice is issued will be considered in the formulation of final determinations. The Indiana Stream Pollution Control Board will issue final determinations in a timely manner after the expiration of the public comment period.

B. If written comments indicate a significant public interest in the application, the Technical Secretary of the Indiana Stream Pollution Control Board shall hold a public hearing on the application. If held, the public hearing will be designed to collect relevant information pertaining to the application in an orderly and expeditious manner. Public notice of a public hearing will be circulated at least 30 days in advance of such event. The public hearing will be held within the State of Indiana. After the public hearing, the Technical Secretary of the Indiana Stream

Pollution Control Board will formulate his final determination. Further information regarding the conduct and nature of the public hearings concerning discharge permits may be obtained by contacting the Indiana Stream Pollution Control Board.

Requests for a public hearing should: state the name and address of the person requesting the hearing and of any person represented at the hearing by the requester; identify the interest in the proposed permit of the requester and of any person represented by him; state the reasons for the request; state the issues proposed to be considered at the hearing; and state the position of the requester on the issues to be considered at the hearing.

VI. Staff Contact and Availability of Information

Additional information concerning the draft permit or permit issuance procedures may be obtained between the hours of 8:15 a.m. and 4:45 p.m., Monday through Friday from:

Larry J. Kane, AC 317/633-0761

Copies of the application, proposed permit including proposed effluent limitations, special conditions, comments received, and other documents are available for inspection and may be copied at a cost of 20 cents per page at the Indiana State Board of Health, Room 336, 1330 West Michigan Street, Indianapolis, Indiana.

Attachment I

Location of Discharge (Outfall key to attached map)

Designation	Outfall
A	002 (GW-1)
B	005 (GW-1A)
C	007 (GW-2)
D	010 (GW-3)
E	015 (GW-4)
F	017 (GW-5)
G	018 (GW-6)
H	019 (GW-7)
I	020 (GW-7A)
J	021 (GW-9)
K	028 (GW-10A)
L	030 (GW-11A)
M	032 (GW-13)
N	033 (ST-14)
O	034 (ST-17)
P	035 (GW-L1)
Q	036 (GW-L1A)
R	037 (ST-L5)
S	039 (ST-L6)
T	No. 4 Pump House
U	No. 2 Pump House
V	No. 1 Pump House
W	Central Pump Station
X	Lakeside Pump House

Attachment II

Description of Existing Discharge

General

U.S. Steel Corporation ((USSC) operates an integrated steel and coke production facility in Gary, Indiana, known as Gary Works and Tubing Specialties (Gary Works). At this facility, USSC produces all types of iron and steel products, coke, coal chemicals, seamless tube rounds, and steel foundry products.

The various wastewater discharges from Gary Works have been authorized by Permit No. IN 0000281 (for all outfalls other than 005) and Permit No. IN 0052094 (Outfall 005). It is proposed to consolidate the two into Permit No. IN 0000281, which is being renewed at this time. The various wastewater discharges are discussed individually below.

It may be noted that process wastewaters from the coke plant are disposed of by evaporation after use for the quenching of coke and discharge to the Gary Sanitary District.

Outfall 002 (GW-1)

This discharge includes wastewater from two sources: U. S. Steel Tubing Specialties and the Gary Works Coke Plant. At the present the discharge from Tubing Specialties comprises about 19.0 MGD of noncontact furnace cooling water and process wastewater from the Seamless mills (#2, 3, and 4) and the Assel mill and 2.6 MGD (intermittent) storm-water runoff. Treatment consists of settling and oil skimming. Beginning February 1, 1983, the process wastewaters from the Tubing Specialties plant is to be filtered and recycled with only blowdown discharged to Outfall 002. Internal monitoring point 601 is the blowdown discharge from the filtration plant.

The discharge from the coke plant comprises 9.9 MGD spent condenser cooling water from the booster house and 11.5 MGD primary liquor heat exchanger cooling water, both from the gas cleaning system. No treatment is provided; however, the permittee does conduct an inspection program to detect and minimize leaks in the primary liquor heat exchangers.

Outfall 005 (GW-1A)

This outfall discharges about 1.9 MGD of spent condenser cooling water from the booster house for the coke plant's gas cleaning system. No treatment is provided.

13850

Outfall 007 (GW-2)

The discharge from outfall 007 comprises the following wastewaters from the coke plant area: 10.3 MGD of heat exchanger cooling water from the distillation house; 0.9 MGD of bearing cooling

water from the booster house for the gas cleaning system; 1.5 MGD of door jamb cooling water from Nos. 5 and 7 coke batteries; 1.0 MGD of steam condensate from No. 2 Boiler House; and storm runoff. There is no treatment of these wastewaters.

Outfall 010 (GW-3)

This outfall also discharges wastewaters originating in the coke plant area: 1.0 MGD of cooling water from tank farm barometric condensers; 2.6 MGD of air compressor cooling water from No. 1 coke battery; and 1.0 MGD miscellaneous cooling water. There is no treatment.

Outfall 015 (GW-4)

This discharge consists of 1.0 MGD of fan bearing cooling water and compressor cooling water from No. 3 sinter plant. Storm runoff is also discharged intermittently. There is no treatment provided.

Outfall 017 (GW-5)

The discharge from this outfall derives from the following sources: 40 MGD of gas cooler and gas cleaning process wastewater from the ironmaking blast furnaces; 1.5 MGD of miscellaneous stock house sump wastes from the blast furnace area; 7.5 MGD of precipitator water; 0.02 MGD of gas cleaning recycle system blowdown from No. 3 sinter plant; 0.4 MGD of blowdown from the Central Intake Water Treatment Plant; and 0.5 MGD of miscellaneous coke oven gas main drip legs. These wastewaters all receive treatment by sedimentation, flocculation, and recycle. A blowdown from the Blast Furnace Recycle System occurs occasionally (in last two years, a discharge has occurred in only 2 or 3 months). The blowdown is pretreated by pH adjustment, chemical precipitation and clarification, followed by alkaline-chlorination to treat ammonia and cyanides, followed by activated carbon adsorption.

Outfall 018 (GW-6)

This discharge comprises roughly 51.7 MGD of blast furnace shell cooling water and 2.7 MGD of miscellaneous cooling water. No treatment is provided.

Outfall 019 (GW-7)

The discharge from this outfall consists of: 18.7 MGD of blast furnace (No. 13) shell cooling water; 3.4 MGD of air compressor cooling water from No. 2 Q-BOP shop; 27.4 MGD of condenser cooling water from the turbo-blower boiler house; 20 MGD of condensor cooling water from No. 13 blast furnace turbine; and 0.7 MGD of condensate from No. 4 boiler house. There is no treatment.

Outfall 020 (GW-7A)

The effluent from outfall 020 comprises 50.1 MGD of gas and hood cooling water from No. 1 BOP (Basic Oxygen Process) shop; 15.0 MGD of furnace cooling water and 22.0 MGD of slab cooling and other miscellaneous process wastewater from the continuous caster. The process water receives settling and oil skimming treatment in scale pits. The permittee is near completion of a recycle system for the discharge of slab cooling water from the scale pits. Approximately one-third of the recycle wastes will be diverted as blowdown to the terminal lagoons (Outfalls 028 and 030). Upon start-up of the continuous caster recycle system, there will be no process wastewater discharge from Outfall 020.

Outfall 021 (GW-9)

This outfall discharges 0.1 MGD of air compressor cooling water and an intermittent amount of storm runoff. There is no treatment.

Outfalls 001, 003, 004, 023, and 026

These are storm runoff discharges. Outfalls 001, 003, and 004 originate in the coke plant area. Outfalls 023 and 026 are located on the south side of the Grand Calumet River in the vicinity of the terminal lagoons. There is no treatment.

Outfalls 028 (GW-10A) and 030 (GW-11A)

These outfalls convey the effluent from the Terminal Lagoons. The influent to the Terminal Lagoons comprises approximately 84.4 MGD of contact cooling water from hot forming mills (primary mills, bar mills, plate mills, etc.); 4.5 MGD of gas cleaning process wastewater from Nos. 1 and 2 BOP shops; and 1.4 MGD of noncontact cooling water from foundry O. H. furnaces. After completion of the continuous caster recycle system, approximately 7 MGD of the continuous caster slab cooling recycle water will be blown down to the terminal lagoons after treatment by settling and oil skimming. Internal monitoring point 603 will monitor the continuous caster recycle blowdown and the effluent from the treatment system for the BOP shop gas cleaning wastewater. The terminal lagoons allow settling of pollutants from these wastewaters. The combined wastewater is allocated to the three lagoons via a flow-splitter. Roughly 36% of the treated lagoon wastewater discharges from Outfall 028 and the remainder from Outfall 030.

Outfall 032 (GW-13)

This discharge comprises 4.6 MGD of furnace cooling water from the 18" #2 bar mill and 2.6 MGD of miscellaneous merchant mill cooling waters. Storm runoff is also discharged intermittently. There is no treatment.

Outfall 033 (ST-14)

This discharge includes 2.4 MGD of cooling water from the atmospheric gas plant in the sheet and tin mill area and 0.2 MGD of miscellaneous cooling water (noncontact). Storm runoff is also discharged. There is no treatment.

Outfall 034 (ST-17)

This discharge currently averages approximately 19.8 MGD, including 6.9 MGD of cold rolling wastewater, 2.1 MGD of galvanizing wastewater, 2.4 MGD from continuous annealing lines, 6.2 MGD of acid pickling wastewater, 0.6 MGD of alkaline cleaning wastewater, and 1.6 MGD from electrolytic tinning and tin-free steel lines. Additionally, up to 17.2 MGD of noncontact cooling waters from these sources is discharged intermittently. Beginning June 1, 1983, roughly 7.1 MGD of blowdown from the 84" HSM (Hot Strip Mill) process cooling water recycle system will be discharged from outfall 034. The blowdown will be monitored at internal station 605.

The following treatment is provided of these wastewaters:

Oil separation is conducted on the 2.9 MGD of cold rolling wastewater from the North Sheet Mill and a pretreatment plant is provided for chromium-bearing wastewaters from the tin-free steel line and the electrolytic tinning lines. These pretreated wastewaters and the remaining process wastewaters are directed to the terminal treatment plant where neutralization, oil separation, and flocculation/clarification are conducted. The effluent from the terminal treatment plant is monitored at internal outfall 604 and then merges with various noncontact cooling waters from the sheet and tin mill area before entering two basins, of one million gallons capacity each, for final oil separation. The process cooling water from the 84" hot strip mill will be treated by primary and secondary settling, oil skimming, and multi-media filtration prior to recycle and blowdown to outfall 034.

Outfall 035 (GW-L1)

This discharge of noncontact cooling water arises from two sources: 10.1 MGD from No. 13 blast furnace and 61.2 MGD of condenser cooling water from No. 5 electric power station. There is no treatment.

Outfall 036 (GW-L1A)

This discharge of 16.8 MGD of noncontact furnace cooling water originates from the 160"/210" plate mill. Storm runoff is also discharged. No treatment is provided.

Outfall 037 (ST-L5)

13853

This discharge consists of a total of 8.4 MGD of noncontact cooling water from the North Sheet Mill and Nos. 6 and 8 electro-galvanizing lines. Storm runoff is also discharged. There is no treatment.

Outfall 038 (ST-L2)

This outfall formerly discharged cooling water from the reheat furnaces for the 80" HSM. This mill is currently shut down and there is no discharge.

Outfall 039 (ST-L6)

This discharge, originating from the 84" HSM, comprises 43 MGD of cooling water from reheat furnaces, 2.0 MGD of air compressor and motor cooling water, 27 MGD of roughing stand process water, and 44 MGD of finishing stand process water. No treatment is provided for the noncontact cooling water. Treatment of the process water is described in the discussion under outfall 034. After June 1, 1983, the process cooling waters will be recycled and the blowdown diverted to outfall 034.

Outfall IN-9

This outfall is the deep injection well by which USSC disposes of waste acid pickling liquor.

Intake Waters

All intake waters for Gary Works are withdrawn from Lake Michigan. Following is a breakdown of the specific intakes and associated outfalls: No. 4 pumping station--outfalls 002, 007, 010, and 015; No. 1 Pumping Station--outfalls 017, 018, 019, 020, 021, 028, 030, and 032; No. 2 Pumping Station--outfalls 035 and 036; and Lakeside Pumping Station--outfalls 033, 034, 038, and 039.

Receiving Waters

The following outfalls discharge to Lake Michigan: 035, 036, 037, 038, and 039. The remaining outfalls are to the Grand Calumet River.

Attachment III

Description of Effluent Limitations and Effluent Limitations Rationale

General

The discharges from Gary Works are subject to effluent limitations guidelines for the Iron and Steel Manufacturing Point Source Category, 40 CFR Part 420, and water quality standards applicable to the Grand Calumet River (Stream Pollution Control Board Regulation 330 IAC 2-2) and Lake Michigan (Board Regulation 330 IAC 2-1). Previous effluent limitations were set in a Consent Decree issued by the U.S. District Court for the Northern District of Indiana in the consolidated cases of United States of America vs. United States Steel Corporation, Civil Cause No. H77-212, and Stream Pollution Control Board of the State of Indiana vs. United States Steel Corporation, Civil Cause No. 73 H 190 ("Consent Decree"). The Consent Decree was initially issued on September 27, 1977, and modified on July 10, 1980.

Outfall 002

Interim discharge limitations are in effect through January 31, 1983, which is the proposed deadline for USSC's installation of a monitoring station at internal outfall 601 to monitor the effluent of the Tube Works Filtration Plant. The interim limitations are continued from the Consent Decree with the exception that requirements for monitoring chlorides, fluorides, and sulfates are deleted. The deletion is discussed under the heading: "Water Quality Bubble."

Final effluent limitations deviate from previous limitations in two respects: (1) limitations for total suspended solids and oil and grease are deleted from outfall 002 because these parameters are now to be limited at station 601, the blowdown from the Tube Works recycle system. However, monitoring for oil and grease is retained at outfall 002 due to the possibility of its presence in the "non-process wastewaters" contributed to the outfall from the coke plant; (2) effluent limits for the wasteload allocation parameters--ammonia-N, total cyanide, and phenols--are proposed to be revised. This matter is discussed under the separate heading "Water Quality Bubble." These parameters are limited at this oufall because of the leakage of coke plant process pollutants into the "non-process" cooling water discharges, primarily through primary liquor heat exchangers. Ammonia-N and phenols are typically significant.

Temperature limitations are discussed under a separate heading. pH is limited to the range of 6-9 s.u., pursuant to water quality standards and effluent limitation guidelines.

Outfall 601 (Tube Works Filtration Plant)

The effluent from the Tube Works filtration plant is limited for total suspended solids and oil and grease pursuant to the BPT and BCT effluent limitations guidelines applicable to the Hot Forming Subcategory, Pipe and Tube mills, 40 CFR 420.72(d) and 40 CFR 420.77(d), which are identical. The effluent limitations are calculated from a production rate of 1,242 tons per day. EPA has determined that BAT limitations are unnecessary for this subcategory.

Outfalls 007 and 010

The parameters of chlorides, fluorides, and sulfates are dropped from the previous permit. Effluent limitations are proposed to be reestablished for these outfalls for the parameters of ammonia-N, total cyanide, and phenol, since these parameters still occur in appreciable quantities. Presumably, the presence of these coke plant process pollutants is attributable to leakage from heat exchangers, barometric condensers, storm runoff, and residual emission from prior sewer contamination. Quantitative limits are discussed under the Water Quality Bubble heading. Additionally, it is proposed that the permittee conduct a characterization survey program for outfall 007 to detect and eliminate sources of process pollutants. (See Part I.D.1 of the permit, p. 23).

Temperature limitations are discussed elsewhere. The daily maximum limit of 10 mg/l for oil and grease is carried over from the previous permit and is considered attainable. pH is limited to the range of 6.0-9.0 s.u. as for all outfalls.

Outfall 017

Effluent limitations at outfall 017 for the parameters of ammonia nitrogen, total cyanide, phenols (4AAP), zinc, total residual chlorine, and lead are calculated directly from the BAT effluent limitations guidelines for the Sintering and Ironmaking subcategories, 40 CFR 420.23 and 40 CFR 420.33(a), using production rates of 14,500 tons/day and 22,167 tons/day, respectively. BAT limitations are proposed to be in effect immediately since the alkaline-chlorination treatment plant for blowdown from the blast furnace recycle system is in operation and is capable of achieving the BAT limits. The parameters of ammonia nitrogen, total cyanide, and phenols (4AAP) are also included for this outfall under the separate "Water Quality Bubble" limitations discussed below. In practical effect, the latter limits will predominate over BAT limits in controlling the discharge of these parameters from outfall 017. The issue is largely moot, in any event, since discharges rarely occur from this outfall.

Outfalls 028 and 030

Water Bubble under Effluent Limitation Guidelines

USSC has requested application of the "Water Bubble" policy created under the Iron and Steel guidelines (see 47 FR 23271-73; Thursday, May 27, 1982) to these outfalls, in association with the effluent from the 84" HSM at outfall 605, in the calculation of effluent limits for total suspended solids and oil and grease.

The treatment of various wastewaters from hot forming, continuous casting, and basic oxygen process steelmaking operations in the terminal lagoons is not sufficient to meet BPT (equivalent to BCT) guidelines for the above two parameters. On the other hand, the filtration and recycle system being installed at the 84" Hot Strip Mill will reduce pollutant discharges well below that required by BPT (and BCT) guidelines for the same parameters.

The effluent limits for TSS and oil and grease proposed in this permit are calculated in accordance with the Water Bubble policy. The following table displays, for comparison, (i) the draft permit limitations and (ii) limitations calculated under the BPT guidelines in the absence of a Water Bubble. The BPT limitations are calculated on the basis of the following production rates: 20,083 tons/day for primary mills with scarfing; 13,583 tons/day for carbon steel section mills; 3,988 tons/day for carbon steel plate mills; 15,831 tons/day for hot strip mills; 5,164 tons/day for continuous casting; and 25,203 tons/day for basic oxygen furnace steelmaking-wet open combustion.

	Draft Permit		BPT Guidelines	
	30 Day Average	Daily Maximum	30 Day Average	Daily Maximum
Outfalls 028, 030				
TSS	10,842 lbs/day	22,800 lbs/day	9,076 lbs/day	24,655 lbs/day
Oil	--	6,460 lbs/day	--	5,345 lbs/day
Station 605				
TSS	725 lbs/day	2,175 lbs/day	5,066 lbs/day	13,520 lbs/day
Oil	--	1,450 lbs/day	--	3,388 lbs/day
Total				
TSS	11,567 lbs/day	24,975 lbs/day	14,142 lbs/day	38,175 lbs/day
Oil	--	7,910 lbs/day	--	8,733 lbs/day

It may be observed that the total limitations for each pollutant for the combined outfalls 028, 030, and 605 are more stringent under the draft permit than would be set by BPT guidelines. The alternative "bubble" effluent limits for outfalls 028 and 030

will be consistent with applicable water quality standards. The conditions for applying the water bubble policy are met.

Other Limitations

Temperature limits are discussed elsewhere. pH is limited to the range of 6.0-9.0 s.u. as for other outfalls. Outfalls 028 and 030 are being dropped from the set of outfalls covered by the "Water Quality Bubble" since recent effluent data for the affected parameters indicate their presence has diminished to nearly background levels in general. However, monitoring only is retained for phenols (4AAP) and fluoride. Although the phenols concentration in the effluent from these two outfalls typically is in the range of 0.010 mg/l to 0.001 mg/l, significant quantities of phenols are frequently discharged because of the large combined flow and monitoring is needed to enable a total accounting of phenol discharges from Gary Works to the Grand Calumet River. Since these outfalls have historically been the largest mass discharge of fluoride from Gary Works, fluoride monitoring is retained at a low frequency as an indicator for this parameter.

It should be noted that the mass limits discussed above for TSS and oil and grease are total limits which apply to the combined discharge from both outfalls.

Outfall 603

BAT effluent limitations for lead and zinc are imposed at this internal monitoring station, beginning July 1, 1984. These limits are calculated from the BAT guidelines at 40 CFR 420.63 and 40 CFR 420.43(c) based on production rates of 5,164 tons/day for continuous casting and 25,203 tons/day for BOF steelmaking-wet open combustion.

Outfall 034

Effluent limitation guidelines are applied to two internal monitoring stations, 604 and 605, and will be discussed under those outfalls. Outfall 034 is retained in the set of outfalls to which water quality bubble limits are applied only with respect to the parameter of phenols (4AAP). The other parameters--ammonia nitrogen, total cyanide, chlorides, sulfates, and fluorides--occur generally in such low quantities that no limits are necessary. However, monitoring is retained for ammonia-nitrogen and total cyanide to allow continued overall accounting of their discharge from Gary Works. Also, monitoring only for chlorides and sulfates is specified since outfall 034 has been historically the largest discharge, on a mass basis, of these two parameters and is useful as a continuing indicator.

Temperature limits are discussed elsewhere. Oil and grease is monitored only. pH is limited as for other outfalls.

Outfall 604

This internal station monitors effluent from the Terminal Treatment Plant prior to its combining with noncontact cooling waters from the sheet and tin mill area. The attached worksheet shows the calculation of effluent limitations from the Iron and Steel Effluent Limitations Guidelines. Production rates are included which form the basis for the calculations.

Several explanatory notes are necessary in interpreting the worksheet and the derivation of the proposed effluent limits. The guidelines for sulfuric acid pickling were deemed to be more appropriate for the combination acid pickling line and, thus, were used in calculating limits. The nine fume scrubbers comprise seven scrubbers associated with acid pickling lines and two scrubbers associated with hot dipped galvanizing lines. BAT guidelines rather than BPT were applied to the galvanizing fume scrubbers.

With respect to oil and grease, only a daily maximum limit of 2,600 lbs/day is proposed. This limit is more stringent than the daily maximum specified by the guidelines (as appears from the work sheet) and is based on current performance of the Terminal Treatment Plant. The limit, based on a statistical analysis, can be achieved 90% of the time at a 95% confidence level.

The worksheet addresses pollutant allowances for two wastestreams not covered by the effluent limitation guidelines: 1.4 MGD of 84" hot strip mill basement wastewater and 2.2 MGD of electroplating wastewater from electro-galvanizing, electro-tin coating, and chromium coating. The pollutant allowances for the HSM basements water are based on Best Professional Judgment of expected removal by the Terminal Treatment Plant. The pollutant allowances for the electroplating wastewaters are based on the proposed effluent limitations guidelines for the Metal Finishing Point Source Category (published August 31, 1982).

Not shown on the worksheet is an additional allowance for chromium which raises the mass limits to those proposed in the draft permit. The effluent limitations guidelines do not specify limits for chromium for carbon steel operations because of the low chromium content of that type of steel. However, a small amount of chromium will be discharged in wastewater from various operations, particularly acid pickling operations. Since acid pickling wastewaters are commingled with electroplating wastewaters (after pretreatment) in the Terminal Treatment Plant, the application of mass limits for chromium to the Terminal Treatment Plant effluent based solely on electroplating would result in unduly stringent limits. Thus, the additional allowances for chromium (6.81 lbs/day daily average and 17.01 lbs/day daily maximum) are included based on Best Professional Judgment. These allowances are within the range which were specified in the proposed Iron and Steel industry guidelines (46 FR 1858).

PLANT: LTV STEEL CANAL WORKS

OUTFALL: ST-17 (034) STATION 604 - Terminal Treatment Plant - WORK SHEET

AMENDOLA 6/24/82

PROCESS	PRODUCTION RATE (TONS/DAY)	TSS		OIL		LEAD		ZINC		CHROMIUM		TIN		NAPHTHALENE		TETRACHLORO-ETHYLENE		
		AVE	MAX	AVE	MAX	AVE	MAX	AVE	MAX	AVE	MAX	AVE	MAX	AVE	MAX	AVE	MAX	AVE
FINISHING																		
COLD ROLLING COMBINATION	12401	933	1863	310	776	4.66	13.96	3.10	9.33					—	3.10	—	4.66	
DIRECT (MS) APPLICATION	1089	107	218	36	91	0.54	1.64	0.36	1.09					—	0.36	—	0.54	
ALKALINE CLEANING -C	3651	320	745	107	320													
HYDROCHLORIC PICKLING - C	14084	986 .031 .04	2304	330	986	4.93	14.82	3.30	9.86							13860		
SULFURIC PICKLING	3985	179	419	60	179	0.90	2.69	0.60	1.79									
COMBINATION PICKLING HP	(USE H_2SO_4) 444	20	47	7	20	0.10	0.30	0.07	0.20									
91 SCRUBBERS	—	49	113	16	49	0.24	0.73	0.16	0.49									
HOT COATING GALVANIZING - S	1360	204	476	68	204	1.02	3.07	0.68	2.04	HEX CHROME 0.14	0.41							
FINISHING SUBTOTAL		2800	6185	934	2625	12.39	37.21	8.27	24.80									
ALLOWANCE FOR 31" HSM BASE METALS	1.4 MGD	30 mg/l 350	70 mg/l 818	10 mg/l 117	30 mg/l 350	0.15 mg/l 1.75	0.45 mg/l 5.26	0.10 mg/l 1.17	0.30 mg/l 3.50									
ALLOWANCE FOR ELECTROPLATING	2.2 MGD	23 mg/l 422	61 mg/l 1120	17 mg/l 312	42 mg/l 771	0.23 4.22	0.67 12.30	0.80 14.69	2.64 48.47	0.80 14.69	2.87 52.69							
TOTAL		3572	8123	1363	3746	18.36	54.77	24.13	76.77	14.69	52.69							

BAT guidelines for cold forming operations specify effluent limits for naphthalene and tetrachloroethylene. The draft permit defers limitations for these parameters pending the conducting by USSC of an organic pollutant monitoring study of a wider range of pollutants which may be present in the cold rolling wastewaters. The monitoring study is specified in Part I.D.2. of the permit.

Outfall 605

The proposed limits in the draft permit for the blowdown from the 84" Hot Strip Mill recycle system for total suspended solids and oil and grease are more stringent than required by the effluent limitations guidelines. As discussed under outfalls 028 and 030, the 84" HSM effluent is included within the water bubble with those two outfalls. By specifying more stringent limits at the 84" HSM, the limits at outfalls 028 and 030 can be relaxed.

Outfalls 001, 003, 004, 023, and 026

The discharges from these outfalls are limited solely to noncontact cooling water, stream condensate, and storm runoff, free from process and other wastewater discharges. pH is limited to the range of 6.0-9.0 s.u.

Outfalls 005, 015, 018, 019, 020, 021, 032, and 033

Present sources of discharges from these outfalls are limited to noncontact cooling water and stormwater. However, discharges from certain of these outfalls may contain contamination from process wastewaters. Therefore, monitoring is specified for ammonia nitrogen at outfall 018, for phenols at outfalls 018, 019, and 020, and for oil and grease at all outfalls. If significant contamination is found to be consistently present at one or more outfalls, the permit may be modified to establish effluent limitations at any such outfall. Outfall 018 is a subject of a special characterization survey for the identification of sources of process pollutant contamination specified in Part I.D. 1 of the draft permit.

Temperature limitations are discussed elsewhere.

Outfalls 035, 036, 037, and 038

These discharges are limited to noncontact cooling water and stormwater free from process and other wastewater discharges. Oil and grease is required to be monitored at these outfalls. pH is limited to the range of 6.0-9.0 s.u. as at other outfalls. Temperature limitations are discussed elsewhere.

Outfall 039

Through May 31, 1983, the permittee is authorized under the draft permit to continue its discharge from this outfall of contact cooling water and other cooling waters from the 84" Hot Strip

Mill. After June 1, 1983, the process wastewaters will be recycled, and the blowdown from the recycle system monitored and limited at station 605 and discharged at outfall 034. From that time on, the discharge from outfall 039 will be limited to noncontact cooling waters.

Thus, the interim limitations for outfall 039 are carried over from the previous permit and the Consent Decree. Final limits, commencing June 1, 1983, are the same as for outfalls 035, 036, 037, and 038.

Water Quality Bubble

The previous NPDES permit, as incorporated in the Consent Decree, imposed effluent limitations for ammonia nitrogen, total cyanide, phenol, chlorides, sulfates, and fluorides on a set of outfalls including, originally, 002, 007, 010, 015, 018, 019, 020, 021, 028, 030, 032, 033, and 034, and finally 002, 017, 020, 028, 030, and 034. These effluent limits were established on the basis of water quality standards for the Grand Calumet River set by Board Regulation SPC 7R-2 as implemented in a wasteload allocation adopted by the Board in 1974 for the Grand Calumet River and Indiana Harbor Ship Canal. The allocation limits were imposed on a net basis and as total mass limits applicable to the combined discharges of the affected outfalls. Thus, the allocation was implemented as a water quality-based "bubble" for the Gary Works.

Several changes are proposed in the draft permit for the water quality bubble. First, effluent limits are deleted for chlorides, fluorides, and sulfates. Historically, the discharge of these parameters has been far below the effluent limits (even when "gross" discharge data are compared with the "net" effluent limitations). Monitoring at outfalls 028 and 030 with respect to fluorides and at outfall 034 for chlorides and sulfates is retained as a continuing indicator of the discharge of these pollutants.

Second, in keeping with the basis for these parameters, (i.e., compliance with water quality standards) the limitations are now proposed on a gross, rather than net, calculation.

Third, the set of affected outfalls is revised. Outfalls 020, 028, and 030 are proposed to be deleted and outfalls 007 and 010 to be added. Process wastewaters have been eliminated from outfall 020 with the rerouting of continuous caster and BOP process waters to outfalls 028 and 030. Even prior to the rerouting, effluent monitoring data show generally low levels of the pollutants in question. Effluent monitoring data show the same for the discharges from outfalls 028 and 030. Monitoring for phenols, the only remaining significant pollutant, is retained. In contrast, effluent monitoring data for outfalls 007 and 010 disclose the presence of significant contamination by process wastewater pollutants. Outfall 007, for example, has frequently been the largest and is typically one of the three highest discharges at Gary Works of ammonia nitrogen on a mass basis. Its status

relative to the discharge of phenols is similar. By the changes in outfall composition of the water quality bubble, emphasis will be placed where emphasis is due--where concentrations of process pollutants are significantly higher.

Fourth, due to the change in outfalls subject to the water quality bubble, the bubble limits are proposed to be revised to reflect the total masses of pollutants discharged with current controls from these outfalls. Outfall 007, one of the larger dischargers of ammonia nitrogen and phenols, is a subject of a special characterization survey to identify and reduce, to the extent practicable, sources of process pollutants. If significant reductions are achieved as a result of the characterization survey program, the water quality bubble limitations may be revised by permit modification. The effluent limits for ammonia nitrogen, though increased from the Consent Decree, are less than "net" limitations set by the 1974 wasteload allocation for Gary Works. Proposed limits for total cyanide are more stringent than those set by the Consent Decree. Water quality standards for both parameters should be met downstream of Gary Works. Effluent limitations for phenols are somewhat increased above those set in the Consent Decree. However, instream monitoring data taken from Pennsylvania railroad bridge just downstream of outfall 034 indicate the water quality standard for phenol to be met at that location in approximately 95% of the samples. Reductions in phenol discharges may occur as a result of the characterization survey program for outfall 007.

Outfall IN-9

Monitoring requirements and the flow limitation for the deep injection well are carried over from the previous permit. This outfall may be deleted from this permit whenever U.S. EPA issues an effective permit under the Federal Underground Injection Control Program for the Gary Works deep injection well.

Thermal Effluents Limitations

Pursuant to Section 316(a) of the Clean Water Act, the permittee submitted to the Board in early 1978 a "Thermal Discharge Study" of the thermal discharges from Gary Works to Lake Michigan and the Grand Calumet River. Staff of the Board and U.S. EPA have reviewed the study and have concluded that the thermal discharges occurring at the time of the study would not preclude the protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife in and on Lake Michigan and the Grand Calumet River (commensurate with the character of the sources of that river). The Thermal Discharge Study concluded, on a theoretical basis, that less thermally tolerant fish species such as yellow perch and emerald shiners would not experience successful reproduction in much of the river under the thermal load from USSC. It was significantly observed, however, that Indiana's thermal standards were not low enough to assure the reproduction of these two species in any event. Furthermore, since the time of the study,

USSC has reduced, and continues to reduce, the total discharge of heated wastewater through the implementation of wastewater recycling. The temperatures of the discharges have not changed appreciably.

Therefore, the draft permit proposes as alternate thermal limitations under Section 316(a) that USSC be allowed to continue its present discharges without making further reductions in the amount of heat discharged. However, any proposed change in production processes which may entail an increase in thermal output may necessitate supplemental thermal discharge studies.

Term of Permit

Since the draft permit provides for timely attainment of BAT and BCT (to the extent BCT has been promulgated), a full five-year term is proposed for the permit.

Larry J. Kane - October 4, 1982